



Mercury as a Threat to the Endangered Florida Panther

Only about 30 to 50 individuals of the Florida Panther (*Felix concolor caryi*) still roam in the wild. In 1989 scientists first became aware of the potential threat of mercury to panthers in south Florida when a female panther from Everglades National Park died. An immediate cause of death could not be determined, although the panther did have severe parasite infestations, a uterine infection, and a healing fracture of her right front leg. Later tests revealed her liver contained high levels of mercury (110 parts per million). Death from mercury toxicosis (poisoning) has been reported in feral domestic cats in Japan with liver concentrations of 37-145 parts per million (Takeuchi et al. 1977, cited in Dunbar 1994).

Ultimate Sources of Hg in the Everglades. Air pollution from metals mining and smelting, coal-fired utilities and industry, and solid waste incinerators are thought to be the major source of mercury contamination (Stephenson 1997). Some of this pollution may come from utilities and industries within Florida, but some may come from as far away as Europe. An ongoing study suggests that mercury from industry in the northeastern United States travels along with air currents east across the Atlantic where it mixes with air currents from the coast of Europe. These currents may carry pollution from Europe and even China. The air mass then travels south where the trade winds carry it back across the Atlantic to Florida. Summer thunderstorms then scour the mercury out of the upper atmosphere (Stephenson 1997).

Proximate Source of Hg to Panthers. Raccoons are thought to be the major source of mercury in Florida panthers (Roelke and Glass 1992; Dunbar 1994). In the 15 months before her death, the panther with high levels of mercury in her liver fed only on small prey, primarily raccoons (Dunbar 1994). Mercury concentrations in panther tissues are lowest north of I-75 where adequate deer and hogs are available and are highest in the Everglades and southern Big Cypress where consumption of raccoons is highest (Roelke and Glass 1992; Dunbar 1994). Raccoons eat many fish, frogs, and other aquatic organisms exposed to methyl mercury. Deer and hogs are primarily vegetarians and ingest far less Hg.

References:

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